EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

PUBLICATION NUMBER : 07246216
PUBLICATION DATE : 26-09-95

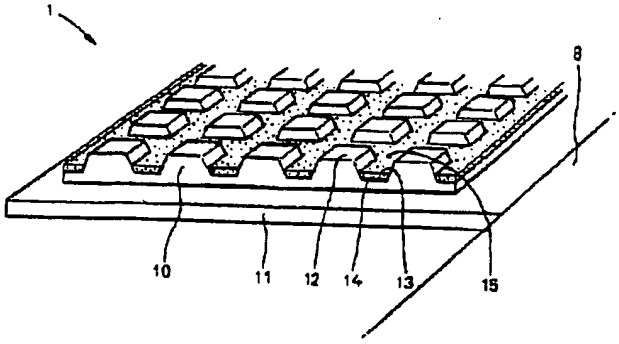
APPLICATION DATE : 08-03-94
APPLICATION NUMBER : 06037012

APPLICANT : UNI CHARM CORP;

INVENTOR : YAMAMOTO MASAMITSU; MURAKAMI MASAKI;

INT.CL. : A61F 13/56 A61F 13/58 A61F 5/44 C09J 7/02 C09J 7/02

TITLE : ADHESIVE STRUCTURE OF ARTICLE FOR THROWAWAY BODY FLUID ABSORPTIVE WEAR



ABSTRACT : PURPOSE: To eliminate the adhesion of foreign matter to tacky adhesive areas and obviate the need for release paper by providing only the recessed parts of a resilient blank having a surface consisting of plural projecting parts and recessed parts with the tacky adhesive areas and making these tacky adhesive areas stickable to the other in such a manner that the projecting parts are compressed and the tacky adhesive areas are exposed to the front surface when these parts are pressed to the other.
CONSTITUTION: A tape fastener 1 is composed of a tape part 11 and a tacky adhesive part 10. The tacky adhesive part 10 has the many projecting parts 12 and the recessed parts 13 formed therebetween on its surface. The recessed parts 13 have the tacky adhesive areas 15 coated with tacky adhesives 14. The projecting parts 12 are compressed and flattened and the tacky adhesive areas 15 are ejected to the front surface when the tape fastener 1 is pushed toward the other part, by which the tape fastener is peelably stuck. In such a case, the tape is so formed that the total sum of the elastic recovery force of the compressed plural projecting parts 12 do not surpass the total sum of the tacky adhesiveness of the tacky adhesive areas 15. The projecting parts 12 exist forward of the tacky adhesive areas 15 in such a manner and the unnecessary adhesion of the foreign matter to the tacky adhesive areas 15 is averted.

JP 07-246,216

Translated from Japanese by the Ralph McElroy Co., Custom Division
P.O. Box 4828, Austin, Texas 78765 USA

Code: 1505-57084

JAPANESE PATENT OFFICE
PATENT JOURNAL
KOKAI PATENT APPLICATION NO. HEI 7[1995]-246216

Technical Disclosure Section

Int. Cl.[6]: A 61 F 13/56
13/58
5/44
A 61 F 13/18
A 41 B 13/02
C 09 J 7/02

Sequence No. for Office Use: 7108-4C

Application No.: Hei 6[1994]-37012

Application Date: March 8, 1994

Publication Date: September 26, 1995

No. of Claims: 3 (Total of 5 pages; OL)

Examination Request: Not requested

ADHESIVE STRUCTURE FOR DISPOSABLE BODY-FLUID ABSORBING WEAR PRODUCTS

Inventors: Masamitsu Yamamoto
18-32 Shimowaka Otsu,
Kameo-cho, Kawanoe-shi,
Ehime-ken

Masaki Murakami
24-13 Aza-Kakanoue Otsu,
Yamadai, Kaneo-cho,
Kawanoe-shi, Ehime-ken

Applicant: 00115108
Uni-Charm Corp.
182 Shimowake, Kaneo-cho,
Kawanoe-shi, Ehime-ken

Attorney: Yoshiharu Shirahama

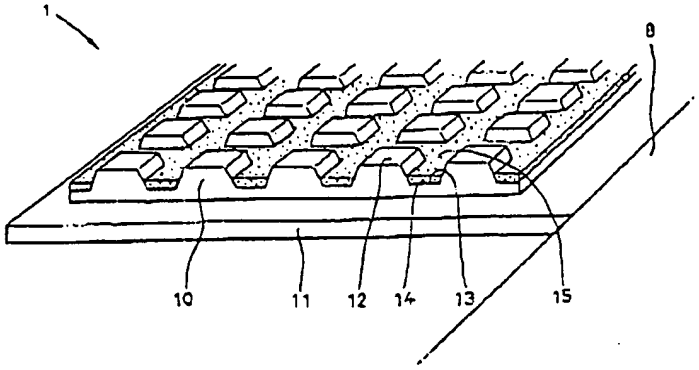
Abstract

Objective

The prevention by peel-off paper for the regions provided on a body-fluid absorbing wear is not required.

Constitution

The surface of the adhesive portion (10) of a disposable body-fluid absorbing wear product (2) is constituted by a soft, elastic base material consisting of multiple convex parts (12) and concave parts (13), and tacky regions (15) are provided only in the concave parts (13).



Claims

1. A structure characterized by the fact that, in the peelable adhesive structure in a wear product for the fixation of a disposable body-fluid absorbing wear product to the wearer, the portion to be adhered is constituted with a soft, elastic base material consisting of multiple convex parts and concave parts on the surface to provide tacky regions only in the above-mentioned concave parts, when the portion mentioned previously is pressed to the counterpart portion to be adhered, the above-mentioned convex parts will be compressed and the above-mentioned tacky regions will be exposed to the front, and the adhesion to the above-mentioned counterpart is made possible.

2. The structure described in Claim 1, in which the above-mentioned tacky regions are obtained by coating a self-adhesive tackifying agent on the above-mentioned concave parts.

3. The structure described in Claim 1, in which the sum of tacks in the above-mentioned tacky regions is larger than the sum of the elastic recovering forces of the above-mentioned compressed convex parts, in a state of adherence of the above-mentioned portion to the counterpart.

Detailed explanation of the invention

[0001]

Industrial application field

The present invention relates to a structure for the fixation of sanitary napkins, disposable diapers, and other disposable body-fluid absorbing wear products to wearers.

[0002]

Prior art

Conventionally, technologies are publicly known which fix worn sanitary napkins, disposable diapers and other body-fluid absorbing wear products on the wearers of these products, to enable the efficient absorption of body fluids by close adherence locally or maintenance to the local vicinity, and to prevent the leakage of body fluids. For example, for sanitary napkins, technologies have been commercialized for the local close adherence of napkins via shorts by providing tacky regions on the rear side of the flap and adhering them in a peelable manner on

the lower thigh parts, or by providing tacky regions on the rear side of wing-type flaps and adhering them in a peelable manner on the lower thigh parts. In the case of the open-type disposable diapers, tacky regions are provided on the free ends of the tape fastener stretching in the circumferential direction from the side edge around the waist of the rear body. Said regions are adhered in a peelable manner on the front body to fix the diaper around the waist of the wearer. This technology has been commercialized. Before these tacky regions are adhered to their counterparts, they may be covered and protected with peelable paper.

[0003]

Problems to be solved by the invention

For the wear products with tacky regions protected with peelable paper according to the above-mentioned conventional technology it is necessary to remove the peelable paper when they are to be used. However, for the wearers, there is frequently a problem in which the time and labor [involved] are troublesome. For example, during removal, peelable paper can be electrostatically charged and adhered to the finger tip. It is troublesome that this cannot be thrown away. Furthermore, in the case of adherence of a sanitary napkin on the lower thigh part of the wear shorts, to remove the peelable paper from the napkin maintained in the lower thigh part by oneself, one must make an unnatural gesture of bending forward in any case. The problem at this time cannot be neglected.

[0004]

Thus, by providing tacky regions in concave parts of a soft, elastic base material consisting of convex parts and concave parts on the surface, the present invention does not require the protection of said tacky regions with peelable paper. The task is to solve the above-mentioned problems.

[0005]

Means to solve the problems

The objective of this invention is to solve the above-mentioned problems of a peelable adhesive structure for a disposable body-fluid absorbing wear product for fixing the above-mentioned wear product to the wearer of said product.

[0006]

With such an objective, the present invention is characterized by the fact that the portion to be adhered is constituted by a soft elastic base material consisting of multiple convex parts and concave parts on the surface provided with tacky regions only in the concave parts. When the above-mentioned portion is pressed to the counterpart portion to be adhered, the convex parts will be compressed and the tacky regions will be exposed to the front, and the adhesion to the above-mentioned counterpart is made possible.

[0007]

In a preferred implementation embodiment of the present invention, a self-adhesive tackifying agent is coated on the concave parts to make tacky regions.

[0008]

Function

For the portion to be adhered for a wear product constituted in this manner, in a normal state, the convex parts at the front of the tacky regions can hinder the contact between the tacky regions and foreign substances and prevent the foreign substances from adhering in an indiscriminate manner. When the above-mentioned portion is pressed to a counterpart portion to be adhered to it, the convex parts will be compressed and the tacky regions will be exposed to the front. The adherence to the counterpart is made possible.

[0009]

The tacky regions can be formed by coating a widely known or publicly known tackifying agent or self-adhesive on a base material. When a self-adhesive is used, the same adhesive is coated on the portion of the above-mentioned counterpart.

[0010]

Application examples

The adhesive structure related to the present invention will be explained in detail with reference to the attached figures, in the manner shown in the following.

[0011]

Figure 1 is a partial crossectional isometric diagram of a disposable diaper (2) having a tape fastener (1) that adopts the adherence method related to the present invention. The diaper (2) consists of a liquid-permeable front side sheet (3), a liquid-impermeable back side sheet (4), and an absorbing body (5) included between these two sheets (3) and (4). The two sheets (3) and (4) are mutually bonded with the portions extended from the margins of the absorbing body (5). The diaper (2) is constituted, in its longitudinal direction, by the front body (7), the rear body (8), and the lower thigh part (9) included between the two bodies (7) and (8). The tape fastener (1) extends in a direction around the waist from both side edges of the rear body (8).

[0012]

Figure 2 is an isometric diagram of the diaper (2) in a worn state, with one side edge of the rear body (8) in an opened state. For the diaper (2), the rear body (8) is overlapped on the front body (7) on the side around the waist. By causing the

detachable adherence of the tacky portion (10) of the fastener (1) onto the backside sheet (4) of the front body (7), it closely adheres to the waist periphery for the wearer (not shown in the diagram). Fixation can be achieved.

[0013]

Figure 3 is a schematic isometric diagram of the tape fastener (1) showing the tacky portion (10) in detail. The tape fastener (1) is constituted by the tape portion (11) made of a nonwoven fabric or a plastic film and a tacky portion (10) provided inside the free end of the tape portion (11). The tacky portion (10) is made of polyethylene, polystyrene, urethane and other foamed plastics, nonwoven fabrics and other elastic sheet materials. There are multiple convex parts (12) installed in a checkerboard fashion on the surface, and concave parts (13) formed between them. The concave parts (13) have tacky regions (15) coated with a tackifying agent (14). The convex parts (12) may have a regular shape or an irregular shape. When they are in a truncated shape or, as shown in the figure, an angular frustum shape, it is preferable that the diameter on one side is 0.5-10 mm, the height is 0.5-5 mm, and the layout gap is 1-5 mm at the base. For the concave parts (13), the tackifying agent (14) may be continuously or intermittently coated. Furthermore, the coating range is preferably up to ¾ of the height from the bottom of the concave parts (13) to the top of the convex parts (12). As the tackifying agent (14), a widely known or publicly known material in said field can be used. When a material with a strong tack is used, it is preferable that the portion of the

front body as the counterpart of adherence be made easily peelable and its adhered [part] be made detachable.

[0014]

Figure 4 is the same isometric diagram as Figure 3 showing another example of the implementation embodiment of the present invention. In the diagram, convex parts (12) of the tacky portion (10) are constituted by the installation of slender ribs with a cross section of a platform shape in a mutually parallel manner. The concave parts (13) are the grooves formed by the mutually adjacent convex portion (12).

[0015]

Figure 5 is the same isometric diagram as Figure 2 showing another example of the implementation embodiment of the present invention. For the tape fastener (1) in this case, a publicly known self-adhesive tackifying agent is used as the tackifying agent (14) in the tacky portion (10) of the shape in Figure 4. A target tape (20) with the same constitution as the tacky portion (10) is adhered on a portion on which the tape fastener (1) is to be adhered on the front body (7).

[0016]

For the diaper (2) constituted in the manner shown in these diagrams, if it touches the body, and the tape fastener (1) is pressed to the counterpart portion of the front body (7) side,

convex parts (12) will be compressed and flattened. By pressing the tacky regions (15) to the front, detachable adherence can be adhered. In the case of using a self-adhesive tackifying agent, by contacting the self-adhesive tackifying agents of the tape fastener (1) and the target tape (20), detachable adherence can be achieved. The unintended peeling from the counterpart, of the tacky portion (10) used in this manner can be prevented by making sure that the elastic recovery force of convex parts (12) does not surpass the tack of the tacky regions (15). In other words, in the adhered portion, the sum of the elastic recovery forces of the compressed multiple convex parts (12) does not surpass the total tack of tacky regions (15). For this, the type of soft, elastic sheet material as the base material, the type of tackifying agent (14), the coated area, the dimensions and shapes of convex parts (12), the type of parting agent coated on the counterpart portion, etc., can be properly selected. For the tape fastener (1) before usage, since convex parts (12) are in front of tacky regions (15), foreign substances do not adhere indiscriminately to the tacky regions (15). Such a tape fastener (1) can also be constituted by the tacky portion (10) alone without the provision of the tape portion (11) made of another material, as shown in the diagram. However, if the tape portion (11) is available, it can be utilized as a supporting region.

[0017]

In the application examples, the diaper (2) has been explained as a target [product]. However, the adhesive structure related to the present invention can be widely utilized in

sanitary napkins, incontinence pads, training pants and other body-fluid absorbing water products that are used by contacting the skin directly, etc.

[0018]

Effect of the invention

For the adhesive structure related to the present invention, the surface of the portion to be adhered is constituted by convex parts and concave parts. Since tacky regions are provided only on the concave parts, tacky regions will be exposed to the front to enable adherence if the portion is pressed to the portion of the counterpart to be adhered. Foreign substances do not adhere indiscriminately in such tacky regions. The covering protection of tacky regions by peel paper is not required. Therefore, the body-fluid absorbing products adopting such an adhesive structure will not cause any problems during wear.

Brief description of the figures

Figure 1 is partial cross-sectional planar diagram of a diaper.

Figure 2 is an isometric diagram of a diaper in a worn state.

Figure 3 is a schematic, isometric diagram of a tape fastener.

Figure 4 is an isometric diagram of a tape fastener of an embodiment different from Figure 3.

Figure 5 is the same isometric diagram as Figure 2 showing an example of the implementation embodiment.

Explanation of symbols

2	A wear product (a disposal diaper)
10	Adhesive portion
12	Convex part
13	concave part
15	Tacky region

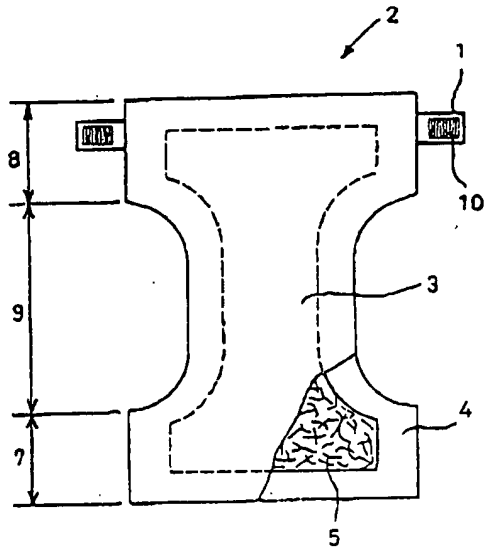


Figure 1

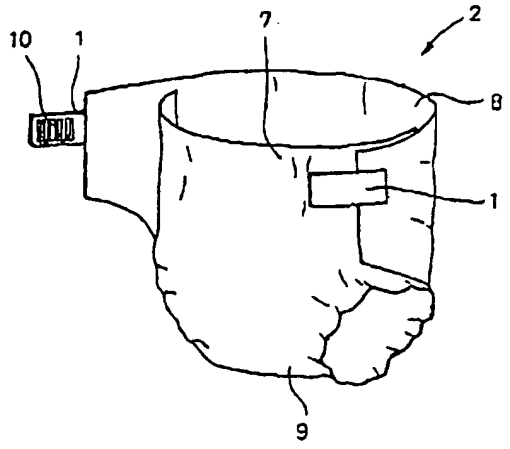


Figure 2

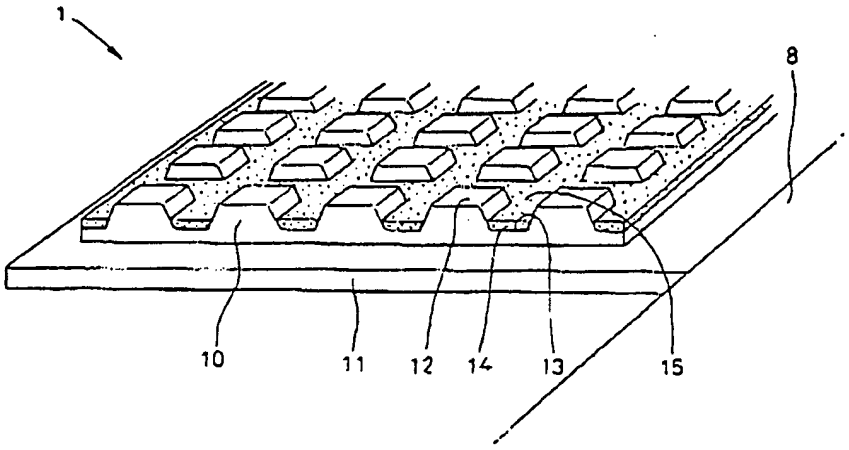


Figure 3

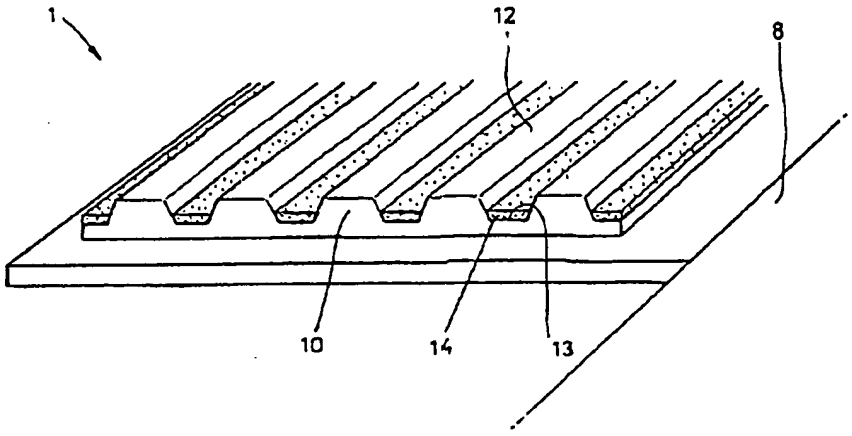


Figure 4

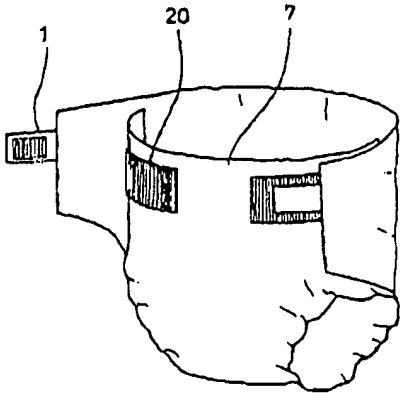


Figure 5